

Growth though Broadband

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Internet of Things

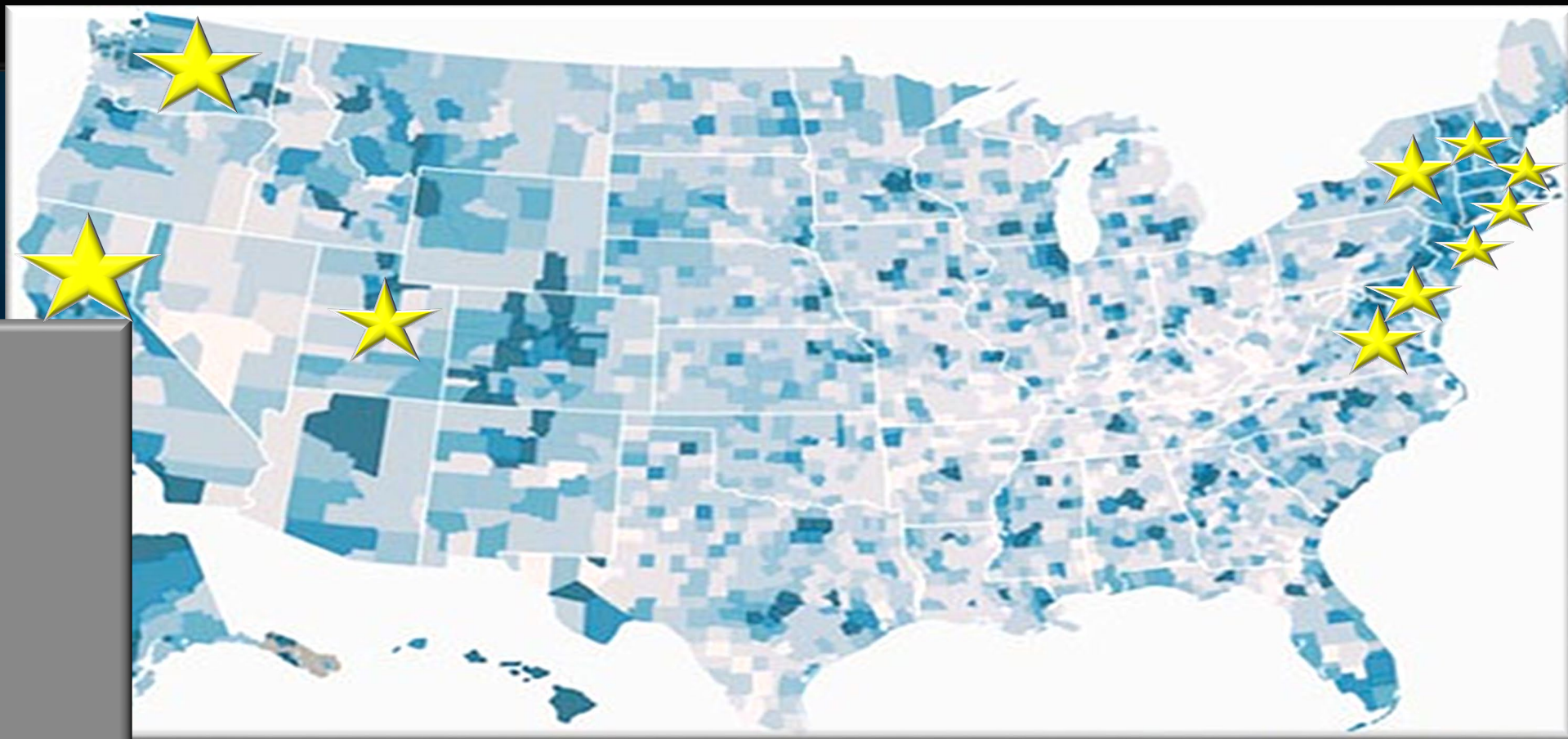
<https://www.youtube.com/watch?v=Cpbbrpgwu2I>

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State Broadband Index Report

- *Technet's 2012* state broadband index rates the states on indicators of broadband adoption, network quality, and economic structure as a way of taking stock of where states stand.

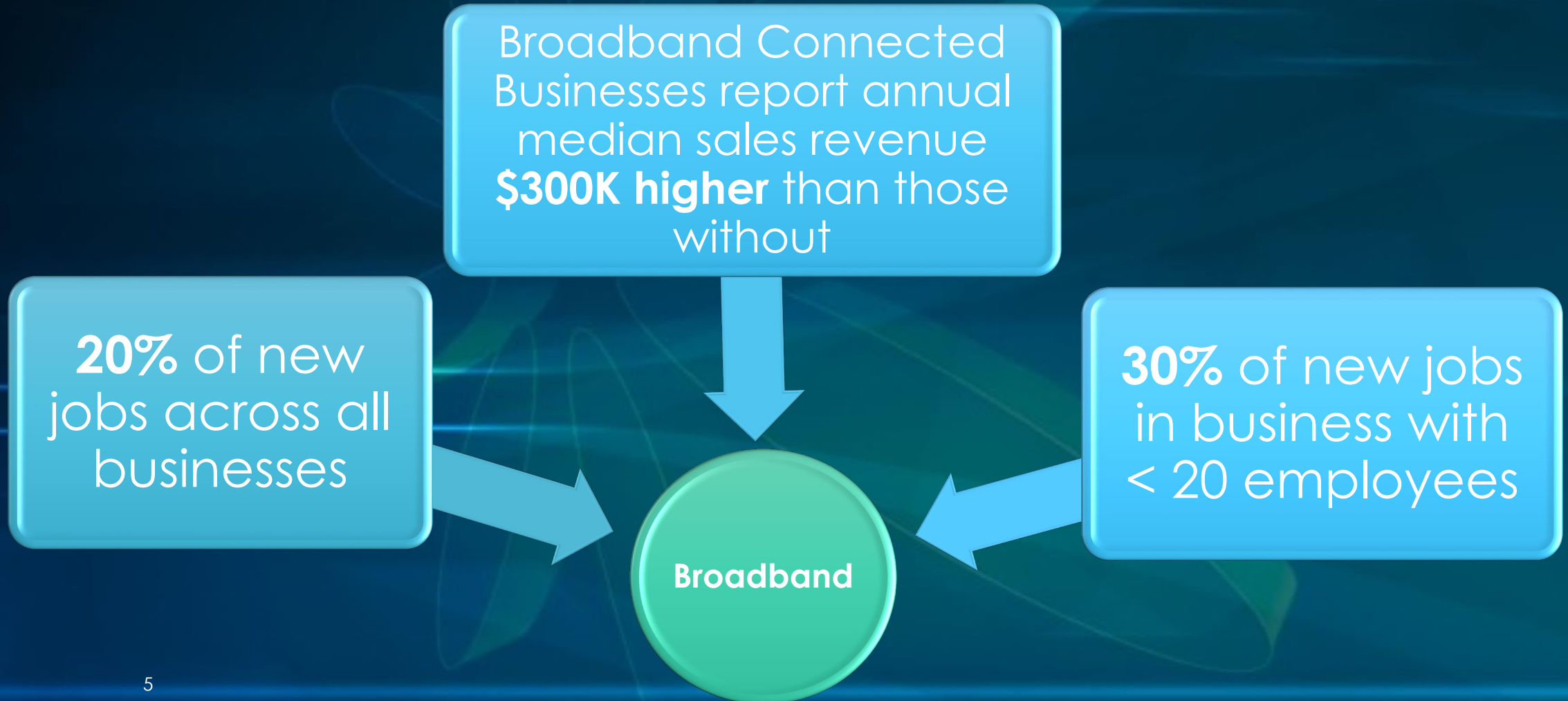


Top 10 States, 2012

1. Washington
2. Massachusetts
3. Delaware
4. Maryland
5. California
6. New Jersey
7. Vermont
8. Virginia
9. Utah
10. New York

Broadband is Key to Economic Growth

- Maintaining an robust broadband infrastructure results in small business creation, job growth, economic output, and increased tax revenues:



Broadband & Economic Growth

Broadband Deployment

Direct Benefits

Residential Penetration

Enterprise
Penetration

Consumer Surplus

Household Income

Total Factor
Productivity

Investment
in
Infrastructure
Deployment

Contribution to GDP Growth

Broadband is key to social growth

- Having internet services that are relevant to people's immediate interests, such as; finding a job, applying for benefits or connecting family members.



2 out of 3 households:

More than 68% US households use high-speed broadband

In one decade, # of **domestic IT jobs grew 26%-- 4X faster** than employment in the US as a whole.



Broadband adoptions rates vary by income level

32.1%

Annual HH Income <\$15K

89.6%

Annual HH Income >\$150K

Online High School graduates are **2X as likely to go to college** as those who are not online



What Happens in an Internet Minute?



And Future Growth is Staggering



Where is the Internet going?



It's likely right in front of you



If you use Flickr and Youtube, you are looking at cloud-based storage offering access from anywhere, whenever you like, as long as you are connected to the Internet.

If you have a Gmail account or use Google Docs you're using software and applications in the cloud. One application can be used by millions of people.



Or, you may use Godaddy.com offering a cloud-based platform for building and maintaining websites.

The Cloud Economy

- End users' experience with consumer cloud services is accelerating organizations' cloud adoption
- The "apps economy" generated \$4 billion in sales in 2011, and is projected to generate \$38 billion by 2015.
- Cloud computing is generating \$60 billion annually in sales in North America.
- The tech sector is the most profitable part of the U.S. economy. Tech companies in the S&P 500 are projected to earn 18% of the index's total earnings more than any other sector.

The Cloud Economy

Cloud benefits according to cloud users:

- #1 Increased efficiency (55%)
- #2 Improved employee mobility (49%)
- #3 Increased ability to innovate (32%)
- #4 Freed current IT staff for other projects (31%)
- #5 Reduced IT operating costs (25%)
- #6 Enabled us to offer new products/services (24%)

Fast Forward to your Cloud-

- Unlimited storage space
- Automatic backup of information
- Immediate recovery of business – even in the event of a earthquake, tornado, flood, or our other disaster
- No expensive servers and software updates
- Access to information from virtually anywhere
- Completely secure servers, Email, and data
- Only pay for the server space and apps used –only when they are needed

Real Life Example

- Elaine runs a profitable chain of restaurants in the Seattle area.
- Nephew, Carl who did all of her IT work, **until her main computer server crashed –**

Knocking out her website & her in-store purchasing systems

Move to the cloud

- Her customers couldn't place "to go" orders online, and she had to manually accept credit card transactions – **slowing down business and causing her to lose customers who didn't want to wait.**
- Lost commission for an entire day before Carl figured out what went wrong.

- Website and purchasing system were running off a server in one of our data centers.
- Data hosting team is available 24 hours a day, 7 days a week to ensure Elaine does not go off line for an entire day again.

Back up and running more efficiently

Real Life Example

There are three “flavors” of cloud services.
Let's look at Elaine's restaurant business to learn more.

- Like an office supply store to purchase software, only business customers don't have to go to the computer store anymore
- **Access the web to purchase and use software, hosted in data center, over the Internet.**
- For example, Elaine is interested in a new finance and payroll system. As part of her SaaS monthly subscription fee, she can simply access Quickbooks Online from her computer to manage inventory and taxes, & generate paychecks.

Software as a service (**SaaS**)

Platform as a service (**PaaS**)

- This is a computing platform that allows application **developers to create and run software without having to buy the underlying hardware and software to build on.**
- For example, Elaine has hired a local firm to update her in-store purchasing system that is now hosted in a data center. To speed development, the local firm is using PaaS, which combines the hardware and the programming framework they need for development, and makes it available through a hosting environment.

- **Customer is using remote servers and data storage.**
- When customers need more, they can expand without having to purchase actual hardware.
- For example, her business has peak sales over the holidays when customers are placing orders on her website. Elaine can now add more space on the cloud server during that time and can revert back to business as usual after the holidays.

Infrastructure as a service (**IaaS**)

Is your business Cloud ready?

Connection

- A broadband Internet connection, preferably with the same high bandwidth for uploads and downloads
- High upload speeds are especially important when backing up data to the cloud

Reliable Network

- Since you're accessing your cloud services over a providers network, you'll want to make sure that they can stand behind their connections
- Having a Service Level Agreement in place is ideal

Security

- If you work with highly confidential customer data and/or need to meet strict regulatory and compliance requirements for your industry, you'll want to consider a private cloud connection versus accessing your services over the public Internet

What are the possibilities?



http://www.youtube.com/watch?v=6Cf7IL_eZ38



Questions?

Appendix

appendix

- http://scoop.intel.com/files/2012/03/infographic_1080_logo.jpg
- <http://www.fcc.gov/document/fact-sheet-broadband-creating-jobs-and-driving-economic-growth>
- <http://www.customis.com/blog/post/2012/08/16/Cloud-Computing-SMBs-Secret-Weapon-Infographic.aspx>
- http://blog.seattletimes.nwsourc.com/brierdudley/2012/12/05/study_washington_no_1_for_broadband.html
- <http://webobjects.cdw.com/webobjects/media/pdf/CDW-2013-State-Cloud-Report.pdf>